

## Chapter 5

### ***Purpose and Need, Recommendations, and Commitments***

#### **5.1 INTRODUCTION**

In Chapter 3, Affected Environment and Environmental Consequences, proposed structural and non-structural components and their potential environmental impacts and proposed mitigation measures for Refined Alternative 4 and Refined Alternative 6 of the Animas-La Plata Project (ALP Project) were discussed and evaluated. On the basis of this evaluation, Refined Alternative 6 was reassessed to determine whether the concerns raised in Chapter 2, Development of Alternatives, about its ability to meet the project purpose and need have been addressed.

#### **5.2 EXPLANATION OF PURPOSE AND NEED**

Once again, the purpose and need for the proposed federal action is:

*... to implement the [Colorado Ute Water Rights] Settlement Act by providing the Ute Tribes an assured long-term water supply and water acquisition fund in order to satisfy the Tribes' senior water rights claims as quantified in the Settlement Act, and to provide for identified M&I water needs in the Project area. [Federal Register Notice, January 4, 1999]*

In evaluating whether the purpose and need is satisfied by any particular alternative, it is necessary to determine whether it provides a feasible means by which the quantities of water contemplated in a settlement can be secured with sufficient certainty. In addition, the alternative must be reviewed to determine whether it will facilitate overall settlement implementation. The primary elements necessary to secure an Indian water rights settlement are as follows:

- An agreement by the United States, tribe, state, and a majority of parties to the adjudication, as well as associated legislation, which provides benefits (primarily water rights) to an Indian tribe sufficient to warrant a waiver of the tribe's reserved water rights claims;
- A defined and reasonable timeframe by which the tribe will, in fact, secure those benefits specified in the settlement agreement;
- Entry of a final decree by the court adjudicating the water rights claims which recognizes the tribe's right to the water and associated benefits identified in the settlement agreement; and
- A waiver of water rights claims by both the tribe and the United States, in its capacity as trustee, becoming effective. The waiver is contingent upon the three previous elements.

##### **5.2.1 Purpose and Need Factors**

In order to test an alternative against the project purpose and need, Chapter 2 identified four separate requirements. These requirements were utilized to evaluate the original 10 alternatives against the project purpose and need. The four requirements are described below:

- **Yield** - Will the alternative annually provide the desired volumes of wet water (i.e., water readily available for beneficial use) for the Ute Mountain Ute and Southern Ute Indian Tribe (Colorado Ute Tribes) in order to satisfy the Colorado Ute Tribes senior water rights claims, as well as other identified Indian and non-Indian users? The *purpose and need* describes an intent to implement the Colorado Ute Indian Water Rights Settlement Act of 1998 (Public Law (P.L.) 100-585) (Settlement Act), which contemplated an average water supply of 62,200 acre-feet/year (afy) (53,200 afy depletion) being made available to satisfy the Colorado Ute Tribes water rights claims in the Animas and La Plata River Basins.
- **Reliability** - Will the alternative provide a reliable, long-term water supply? Will the yield be renewed by the hydrologic cycle?
- **Location** - Will the water supply be reasonably available to the designated users on their lands and/or communities? Are needed water conveyance facilities feasible for development?
- **Practicability** - Is the development of the alternative technically feasible? Are there impediments or restrictions which make development of the alternative impractical? Some of these perceived impediments may be related to authority issues or legal concerns.

Following the evaluation described in Chapter 2, only 2 of the original 10 alternatives evaluated were determined to warrant additional study. These were Refined Alternative 4 and Refined Alternative 6. This decision was based, in part, on the fact that these two alternatives rated closely on impacts and both, in theory, could meet the purpose and need test. Chapter 2, however, did raise concerns about the ability of Refined Alternative 6 to ultimately meet the project purpose and need. Notwithstanding those concerns, because Refined Alternative 6 set forth a significantly different approach to potentially the meeting purpose and need of the project, the decision was made that a more in-depth analysis was needed. That analysis was done, and is contained in Chapter 3 and Chapter 4, Other Impact Considerations.

In the course of performing the analysis on Refined Alternative 6, it became increasingly evident that under various scenarios, there are still significant issues associated with Refined Alternative 6 which affect its ability to meet the project purpose and need. In particular, the analysis showed that there are concerns with the ability of Refined Alternative 6 to meet the *yield* criteria. There are also serious concerns about the ability of Refined Alternative 6 to meet the *practicability* criteria. These two concerns are discussed below.

### 5.2.1.1 Yield

As defined in Chapter 2, the purpose and need for this project is to implement the 1988 Settlement Act by providing an assured long-term water supply for the Colorado Ute Tribes and other project water users. Refined Alternative 4 includes a non-structural \$40 million water acquisition fund to allow the Colorado Ute Tribes to purchase up to 13,000 afy of additional depletion water rights should they so choose. Alternative 6 was refined to provide for a similar fund to acquire an annual depletion of 13,000 af. It is assumed that this amount of water would be left on the land where acquired for the time being. For purposes of analysis, the relative impacts and potential reliability of this 13,000 afy component are assumed to be essentially the same for the two alternatives.

Additional water must be acquired under the remainder of the non-structural component of Refined Alternative 6 in order to meet the balance of the water supply needs of the Colorado Ute Tribes and other users. In comparison, under Refined Alternative 4 this additional water would be provided through

structural components (e.g., Ridges Basin Reservoir). Refined Alternative 6, however, would supply this same amount of water from a combination of structural and non-structural components. In this respect, water from re-operation and modification of existing federal facilities in the project area would provide all but about 17,432 afy of the total project demand. The 17,432 afy balance would be met through a non-structural approach; it equates to about 11,933 acres of irrigated farmland that would have to be acquired in the project area. Of this amount, 10,000 acres would be acquired in the Pine River Basin out of a total non-Indian irrigated land base of 30,000 acres. Using the assumptions below, it appears feasible to acquire the remaining necessary acreages in the La Plata (785 acres), Mancos (500 acres), and McElmo (640 acres) drainages, which would provide water for 2,318 afy depletion. (The 11,933 acres is in addition to the acreage needed to acquire the 13,000 afy as discussed in the previous paragraph.)

Water rights must be acquired that, when considered in the aggregate, would represent the average water rights priority. The entire water rights base would be accessible to meet these needs, not just the senior rights. Although market forces are somewhat unpredictable, it appears feasible to acquire from 6,000 to 7,000 acres of land in the Pine River Basin which would require about 8,000 to 10,000 afy depletion on a willing seller/willing buyer basis within a 30-year planning horizon. The 30-year planning horizon is a conservative projection of the period over which land would be acquired; if land becomes available earlier, then the planning horizon could be reduced. As discussed below, however, it will become increasingly costly and difficult to acquire the last 5,000 to 7,000 afy of water in the Pine River Basin with sufficient senior water rights to meet the overall water needs. This would mean that the required depletion under Refined Alternative 6 would be about one-quarter less than the required amount. If the assumption of acquiring water rights with the average seniority is not met, then additional acreage would be required (see Attachment D, Water Rights Considerations and Constraints, Land Acquisition, M&I Water Use Valuation, and Conversion of Fee Simple Farmland).

Real estate turn-over has been low over the last several years, at least where agricultural land is concerned. Since 1993, an average of about five properties per year (i.e., irrigated farm and ranch properties, with a minimum parcel size of 80 acres) in the Pine River Basin have been sold. The 1999 La Plata County active listings of farm and ranches in April 1999 totaled 37 properties, or 2 percent of all real estate listings; only 1 had sold in 1999 by that date (see Attachment D).

There were 91 residential acreage listings in Bayfield, Ignacio, Vallecito, Mancos, and Cortez, of which 10 sold in this period. Only four of these listings were over 35 acres. However, past sales may not provide reliable forecast of future sales, particularly 30 years out. The sales price escalation that has been reported in the last few years is more of an indicator that shows a trend for higher prices on continuously smaller rural parcels (see Attachment D).

Thus, it appears that under a willing buyer/willing seller principle, assuming a 30-year timeline, and given access to additional money if needed, sufficient land and water can potentially be acquired under Refined Alternative 6. However, as noted above, there is a certain element of risk involved in buying the last amount of land and water rights sufficient to meet the water needs for Refined Alternative 6. Risk will be represented either as additional cost to complete the land and water acquisition program, or the end result of acquiring fewer acres and acre-feet (af) of water than required. Because significant water acquisition is a critical element of Refined Alternative 6, uncertainty of its ability to meet the yield factor creates a potential fatal flaw to the ability of Refined Alternative 6 to secure the requisite benefits called for in the Settlement Act, and thus, its ability to meet the project's purpose and need. It should also be noted, as will be discussed below, that the 30-year planning horizon assumed here is a long time-period for implementation of an Indian water rights settlement.

On a comparable basis, the estimates for providing water to satisfy the Colorado Ute Tribes' settlement can be met through both Refined Alternative 4 and Refined Alternative 6 at approximately the same cost as expressed in present value. Refined Alternative 4 has a present value of about \$290.6 million (including the \$40 million water acquisition fund) for construction, operation and maintenance; cost of the Navajo Nation Municipal Pipeline (NNMP); mitigation, and land purchases. Refined Alternative 6 has a present value of about \$273 million (including the water acquisition fund) for construction, land purchase, and water rights transfers; NNMP, enlarging Lemon Dam; and purchase of stored water in Red Mesa Reservoir. However, Refined Alternative 4 provides a secure, reliable water supply for municipal and industrial (M&I) purposes in a five-year period, while Refined Alternative 6 provides a secure, reliable water supply for only about three-quarters of the required amount, and a less reliable process of obtaining the remaining water needed through land acquisitions. There is a risk that Refined Alternative 6 could not meet the water supply of the Settlement Act, and this risk needs to be added to the present value of the total cost associated with it.

### **5.2.1.2      Practicability**

In the process of evaluating impacts, several concerns arose about the practicability of Refined Alternative 6 in the areas of: (1) socioeconomic issues, (2) changes in water use, (3) timing, and (4) Indian Trust Assets (ITAs).

#### **5.2.1.2.1      Socioeconomic Issues**

There is a range of socioeconomic issues related to Refined Alternative 6 which affects its ability to meet the project purpose and need. These issues include a potential lack of support for a water acquisition program of the magnitude contemplated here, including the potential objections to taking land and water into trust.

With respect to the magnitude of land and water acquisition that is necessary as part of Refined Alternative 6, it would take roughly 11,933 acres of irrigated farmland out of a total of 156,000 irrigated acres in the 5 watersheds in order to obtain the amount needed to supply an assured water supply which represents the required non-structural portion of Refined Alternative 6. It should be reiterated here that this quantity has been reduced through the process of refining Alternative 6, whereby re-operation of existing federal facilities is utilized to make a substantial amount of water available to the Colorado Ute Tribes. The yield provided through re-operation alone, however, does not achieve the quantity specified in the Settlement Act, and therefore, water acquisition is necessary. In addition, re-operation alone would create issues with respect to the location element of purpose and need if not combined with water acquisition. Notwithstanding the minimization of water acquisition as part of Refined Alternative 6, it is still significant enough to present an issue. While the amounts of land to be acquired on the La Plata, Mancos, and McElmo River Basins are minor in relation to the total amount of land available, the acquisition of potentially one out of every three acres of irrigated farmland on the Pine River could be disruptive to the local real estate market and the social fabric of the local community, and it could impact the county tax base as well. In fact, as evidenced by letters and comments submitted during the Romer-Schoettler process, there appears to be considerable local opposition to the types of land acquisition and water transfers proposed under Refined Alternative 6. Under a willing buyer/willing seller arrangement, this could present significant problems as to the practicability of Refined Alternative 6. Such opposition would certainly affect the ability of Refined Alternative 6 to meet the project purpose and need.

One specific factor in creating local opposition to Refined Alternative 6 is the prospect that land acquired as part of the process would be taken into trust by the federal government for the Colorado Ute Tribes.

benefit. Taking land into trust is a significant issue to local non-Indian communities due to the potential ramifications on the local sales and property tax base as well as jurisdictional matters (e.g. those involving law enforcement, land use planning, public education, and maintenance of utilities and roads). Conversely, having lands held in trust by the federal government is very beneficial to tribes from an economic, as well as cultural and social, perspective. The process by which lands are taken into trust are set forth in 25 CFR Part 151 (currently the subject of proposed new rules, published in the *Federal Register* on April 12, 1999 (64 FR 17574)). The process under both the existing and proposed rules provides for an administrative appeal process available to any party adversely affected by lands being taken into trust. Judicial review is then available. As a result, it is possible that some acquisitions may not result in land and associated water rights being taken into trust. Although this may not preclude Tribal use of water acquired as part of a voluntary sale, it does affect the nature of the rights the Tribes acquire, and limits those benefits contemplated as part of Refined Alternative 6.

In summary, the issues involved in acquiring the amounts of land and water from the local area that is deemed necessary as part of this particular settlement raises significant concerns as to the practicability of Refined Alternative 6 to satisfy the project purpose and need.

#### **5.2.1.2.2      *Changes in Water Use***

All of the water rights acquired would be irrigation and not M&I rights. Thus, in order to change the type and place of use, applications must be made to the Colorado State Water Court. Such applications typically involve a long and burdensome judicial process undertaken in a public setting where any affected party would have the right to oppose. Based on discussions with professionals familiar with comparable water rights transfer cases in the State of Colorado, it is estimated that the average time needed to make the type of change of uses contemplated in Refined Alternative 6 would be approximately eight years per application (assuming several acquisitions included in each application). Applications must be supported by legal, engineering, environmental, and mitigation analyses, public forums, and legal representation. Current residents of eastern La Plata County and other project areas may well object to removing water from some of the best irrigated lands in the county, and to the implications to downstream return flows and impacts to groundwater recharge, which could affect their water supplies. If such objections occur, the change of use proceedings which would be necessary to utilize a significant amount of the acquired water would likely become expensive. In addition, the length of time and eventual outcome of the water transfer application would be uncertain. This process, therefore, adds elements of risk, uncertainty, and unquantified costs to the successful completion of the non-structural components of Refined Alternative 6, which affects the practicability of the alternative and its ability to meet the purpose and need.

#### **5.2.1.2.3      *Timing***

One of the elements which is critical to successful implementation of an Indian water rights settlement is a defined and reasonable time frame in which the tribes will secure those benefits specified in the settlement. Even with a reduced reliance on water acquisition, there are significant issues as to whether the level of water contemplated for acquisition under Refined Alternative 6 would indeed be available as discussed in the preceding sections. Even if available, the planning period utilized is a 30-year period. This presents a significant issue as to how this settlement could be finalized (i.e., the waiver of claims becoming effective) without the benefits of the settlement being secured for an extended time frame. This situation is exacerbated by the fact that, in and of itself, securing the benefits would be uncertain. Assuming sufficient support exists for utilization of Refined Alternative 6 as an alternative for settlement implementation, it presents a possibility that implementation of settlement could be initiated but never

finished, resulting in the same situation 30 years from now that exists today. Accordingly, the extended timing with uncertain resolution related to Refined Alternative 6 calls into question its ability to satisfy the project purpose and need.

#### **5.2.1.2.4      *Indian Trust Assets***

As a threshold matter, there is a question of whether Refined Alternative 6 would be an acceptable settlement alternative to the Colorado Ute Tribes ( i.e., whether it would provide sufficient benefits with sufficient certainty to justify waiving their reserved water rights claims). Historically, the two Tribes have been resistant to a non-structural settlement alternative (Resolution No. 97-160 of the Southern Ute Tribe and Resolution No. 4365 of the Ute Mountain Ute Tribal Council). In addition, the federal government, as trustee for the Colorado Ute Tribes, must assess whether a settlement proposal justifies a waiver of the Tribes' reserved water rights claims. Although refinements to Alternative 6 have increased the assured water supply which could be made available to the Colorado Ute Tribes for certain uses contemplated in the water use scenarios, there is still a considerable amount of uncertainty as to the ability of Refined Alternative 6 to finalize implementation. Consultation with the Colorado Ute Tribes would be necessary to conclusively assess their position on Refined Alternative 6.

At the same time, there is cause for significant concern regarding the impact of Refined Alternative 6 on the other two Indian tribes in the San Juan River Basin. As noted earlier, Refined Alternative 6 was refined to include re-operation of the federal facilities to make water available to the Colorado Ute Tribes. Although this improved the prospective yield of Refined Alternative 6, the result is that Refined Alternative 6 uses all the remaining available storage capacity in Navajo Reservoir beyond that required to meet existing approved depletions and to deliver water required for endangered fish, leaving no remaining flexibility to supply new depletions for the Jicarilla Apache Tribe or the Navajo Nation. Based on existing information, the impact to these future Indian trust water requirements is at least 8,000 afy greater than under Refined Alternative 4 and 20,000 afy greater than with the No Action Alternative. It is possible, though not yet modeled, that the impact might be greater if other uses contemplated by those tribes (e.g., Navajo-Gallup Project) are affected by reoperating Navajo Reservoir for the Colorado Ute Tribes' settlement. The 8,000 afy increase in known impacts due to Refined Alternative 6 occurs as a result of using storage capacity of Navajo Reservoir to meet ALP Project demands at the expense of the demands anticipated to be supplied from Navajo Reservoir.

Impacts to the ability of the Navajo Nation and Jicarilla Apache Tribe to utilize their reserved water rights are significant to assessing the practicability of Refined Alternative 6. The United States is a trustee to all four of the tribes in the basin and must seek to reconcile competing interests in a manner acceptable to each of the tribes. Although the Navajo Nation and Jicarilla Apache Tribe have historically not objected to the Colorado Ute Tribal settlement, the additional impacts caused by Refined Alternative 6 may cause those tribes to reassess their historical positions. Objections by those tribes would seriously affect the viability of Refined Alternative 6 to implement the Colorado Ute Tribes' water rights settlement. Consultation would be necessary to conclusively assess those tribes' position on Refined Alternative 6.

### **5.2.2            Conclusion**

The evaluation of several factors reveals that implementation of Refined Alternative 6 presents a number of problems:

- It imposes significant risks on the ability of the project to provide an assured water supply commensurate with the water rights established in the settlement;
- The wholesale purchase of land and transfer of water may be opposed by the local community, thereby impacting completion of the settlement;
- It requires an extended and uncertain time frame to secure the settlement benefits which affects the ability to finalize the settlement; and
- It substantially impacts Indian trust water rights by using the remaining capacity of the Navajo Reservoir, a facility designed to supply these demands, thus creating a likely conflict with the Navajo Nation and Jicarilla Apache Tribe.

### **5.2.3 Clean Water Act Analysis**

The Bureau of Reclamation (Reclamation) is seeking an exemption under Section 404(r) of the Clean Water Act (CWA) from having to obtain a dredge and fill permit from the U.S. Army Corps of Engineers under Section 404(a) of the CWA. As part of this process, Reclamation has prepared an analysis of wetlands impacts under the guidance of Section 404(b)(1) of the Act (see Attachment B, Section 404(b)(1) Evaluation). The guidelines under Section 404 provide that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed activity that would have a less adverse impact on the aquatic ecosystem. Such a practicable alternative can be any alternative which could be reasonably obtained, utilized, or expanded in order to fulfill the basic purpose of the activity.

Given that the basic purpose of the proposed federal action is to implement the Settlement Act by providing an assured long-term water supply to the Colorado Ute Tribes, the purpose and need analysis is also relevant to whether there are other practicable alternatives available that could fulfill the basic purpose of the activity under the Section 404(b)(1) standard. Based on the analysis in Chapter 2, Alternatives 1, 2, 7, 8, and 9 have been determined not to meet the practicability factor of the purpose and need test and are, therefore, not practicable under Section 404(b)(1). Alternative 5 fails the yield factor of the purpose and need test and is eliminated from further consideration. In addition, although Alternative 3 has been determined to meet the purpose and need test, its water quality concerns are significant enough to warrant its elimination from further consideration.

For the purpose of performing as thorough an analysis as possible, it is assumed that Refined Alternative 6 is capable of satisfying the project purpose and need, and is therefore practicable. This assumption allows for Refined Alternative 6, along with Refined Alternative 4, to be evaluated pursuant to the CWA Section 404(b)(1) guidelines. That analysis is contained in Attachment B.

## **5.3 RECOMMENDATIONS**

Refined Alternative 4 would best meet the project purpose and need. In addition, it is also determined to be the least damaging and practicable alternative under the CWA analysis. Accordingly, Refined Alternative 4 is designated as Reclamation's Preferred Alternative (see Attachment B, 404(b)(1) Evaluation). After reviewing agency and public comments and any additional analysis undertaken, it may be recommended to the Secretary of the Department of the Interior (Interior) for selection.

## **5.4 ENVIRONMENTAL COMMITMENTS**

This section discusses the environmental commitments that would be made by Interior or Reclamation during the development of Refined Alternative 4 (Reclamation's Preferred Alternative). Reclamation would have shared responsibility for implementing measures that would avoid or reduce potential environmental impacts of the ALP Project. This responsibility would be shared with other federal agencies, the Colorado Ute Tribes, other ALP Project beneficiaries, as well as third-party entities which could include Colorado and New Mexico state agencies, local governments, and private developers.

The commitments in this chapter summarize commitments made during the planning process and incorporated into ALP Project design as discussed in Chapter 2 of this Draft Supplemental Environmental Impact Statement (DSEIS), and mitigation measures proposed in Chapter 3 to reduce or avoid impacts that would otherwise occur as a result of the implementation of Refined Alternative 4. These commitments supersede commitments made by Reclamation in previous ALP Project National Environmental Policy Act (NEPA) documents.

As discussed below, the commitments described herein would be implemented by Interior, or Interior would require their implementation by construction contractors, management authorities, or third-party developers. Commitments for pre-construction activities would generally be completed by Reclamation or by contractors during the final design process and prior to construction activities. Some commitments, such as monitoring or additional studies, would continue beyond completion of construction of structural facilities.

The non-structural component of Refined Alternative 4 (i.e., the \$40 million water acquisition fund) would be administered by Interior through the Bureau of Indian Affairs (BIA). It was assumed that the use of this fund would be for acquisition of irrigated agricultural lands and that these lands would remain in irrigated production. In the event that the Colorado Ute Tribes were to elect to fund alternative activities with the water Acquisition fund or were to apply for water rights transfers, it would be the responsibility of the water acquisition fund's administering agency to determine appropriate environmental protection measures. It is possible that additional NEPA compliance may be required for such alternative uses.

The use of ALP Project water by either the Colorado Ute Tribes or other ALP Project beneficiaries would result in environmental impacts that would require the implementation of avoidance design specifications and mitigation measures. To the extent that Reclamation can require developers of ALP Project water end uses to implement environmental protection elements into design, Reclamation commits to requiring certain measures as discussed in the following sections. However, all compliance responsibilities and costs associated with end use development would be the responsibility of the third-party developers. As discussed in Chapters 1 and 3, additional NEPA compliance would likely be required for the development of end use facilities to occur. At such time, the lead agency would be responsible for identifying additional environmental commitments specific to the proposed end uses.

### **5.4.1 General Commitments**

Throughout the planning process for the project, efforts have been made to avoid impacts where practicable. If avoidance was not possible, then mitigation measures have been developed to reduce the level of impact. The mitigation measures for each resource impact were discussed in Chapter 3. In addition to the specific mitigation measures identified in Chapter 3, other management practices would



be employed during construction activities to minimize environmental effects and would be included in construction specifications. Many of these measures are required in order to comply with federal, state, or local laws and regulations, regardless of whether they are specifically identified in the report. Reclamation will comply with all relevant federal, state and local laws, ordinances, regulations, and standards during the implementation of Refined Alternative 4.

#### **5.4.2 Water Resources and Hydrology Commitments**

Reclamation will develop an operations plan for the Ridges Basin Pumping Plant that will schedule pumping from the Animas River in a manner to limit impacts to non-Colorado Ute Tribal entities ability to obtain water from the San Juan River as described under Mitigation for Refined Alternative 4 Hydrology Impact 2 in Section 3.2.

Reclamation will work with all appropriate state and federal agencies to pursue a method to protect ALP Project water return flows in the La Plata River drainage as a water supply for endangered fish as described under Mitigation for Refined Alternative 4 Hydrology Impact 3 in Section 3.2.

Reclamation will design and develop Ridges Basin Reservoir with a minimum pool establishment of 30,000 af.

#### **5.4.3 Water Quality Commitments**

Reclamation will develop and implement a program to reduce, minimize or eliminate temporary, short-term increases in suspended sediment loading or other water quality constituents, potentially caused by project construction, through the incorporation of permits, Best Management Practices (BMPs), and sediment control structures as described under Mitigation for Refined Alternative 4 Water Quality Impacts 1-3 in Section 3.3.

Reclamation will develop and implement a program designed to reduce, minimize or eliminate the temporary, short-term increases in suspended sediment loading that may potentially occur during construction of the non-binding end uses and water conveyance systems through requiring developers and construction contractors to incorporate BMPs and sediment control devices as described under Mitigation for Refined Alternative 4 Water Quality Impact 6 in Section 3.3.

#### **5.4.4 Vegetation**

Reclamation will replace approximately 1,549 acres of upland habitat lost from the construction of the Ridges Basin Reservoir and the Durango Pumping Plant in order to replace or exceed the habitat value of the lost vegetation as described under Mitigation for Refined Alternative 4 Vegetation Impacts 1 and 2 in Section 3.4. The replacement/acquisition of lost habitat will be completed prior to initiation of ground-breaking construction activities at the reservoir and pumping plant. Reclamation will attempt to acquire large contiguous acreage and will attempt to acquire these lands first in the river basins that would be affected by the ALP Project, and then outside of those basins, with the final decision made in consultation with state and federal wildlife agencies.

Reclamation will compensate the loss of 134 acres of wetland/riparian habitat at a mitigation ratio sufficient to replace or exceed the habitat value of wetland/riparian habitat lost as described under Mitigation for Refined Alternative 4 Vegetation Impacts 3 and 4 in Section 3.4. Reclamation will

replace lost wetland/riparian areas at a ratio of 1.5:1, thus creating approximately 200 acres of replacement wetlands. Mitigation will involve a program of land acquisition, wetland development, and long-term management. To the extent possible, this program will be integrated into the wildlife habitat mitigation program to expand benefits and provide large blocks of contiguous wildlife habitat. For purposes of this DSEIS, it is assumed 600 acres will be necessary. Because of limited water supplies for new wetland creation in the region, restoration of degraded wetlands would be an important component of any wetland plan. As with wildlife habitat mitigation, the La Plata River Basin would be given first priority for wetland development.

Reclamation will ensure that construction contractors limit ground disturbance to the smallest feasible areas, and will ensure that construction contractors implement BMPs, along with the planting or re-seeding disturbed areas using native plant species to assist in the re-establishment of native vegetation as described under Mitigation for Refined Alternative 4 Vegetation Impact 5 in Section 3.4.

Reclamation will require that development of non-binding end uses avoids or minimizes construction impacts to wetland and riparian vegetation located within corridor alignments of the non-binding water conveyance pipelines. Reclamation will require that construction zones are kept to the minimum size needed to meet project objectives. If avoidance is not possible, a riparian/wetland mitigation and monitoring plan will be developed to compensate for the loss of vegetation cover as described under Mitigation for Refined Alternative 4 Vegetation Impact 8 in Section 3.4.

#### **5.4.5 Wildlife**

Reclamation will mitigate the direct and indirect loss of approximately 3,000 acres of wildlife habitat through the purchase, development, and management of approximately 3,000 acres of suitable land as described under Mitigation for Refined Alternative 4 Wildlife Impact 1 in Section 3.5. The actual amount of land that would be acquired to obtain this level of mitigation would depend on the potential wildlife value of the lands acquired. All reasonable attempts will be made to acquire interests in lands on a willing seller basis, using fee simple purchases, conservation easements, purchase options, or life estates, to name a few. However, this does not preclude the use of other authorities available to acquire such land interests. Priority will be given to lands in the La Plata River drainage, as well as in the vicinity of Ridges Basin, to provide replacement habitat for displaced deer, elk, and other wildlife that utilize Ridges Basin and adjacent areas that would be affected. Large, contiguous parcels would be given priority to create unfragmented habitat and to facilitate management. Lands will be managed for wildlife and other uses would not be allowed if it is determined that they would interfere with the wildlife habitat benefits. Acquisition, development, and management plans will be coordinated with the U.S. Fish and Wildlife Service (Service), Colorado Department of Wildlife (CDOW), and possibly the Southern Ute Indian Tribe. Because of the preference to acquire interests in lands on a willing seller basis, it is recognized that the specific parcel location is difficult to establish at this time. If La Plata or Ridges Basin areas are unavailable, lands in other areas of the San Juan River Basin will be sought. Based on similar past programs, it would be feasible to acquire the lands; however, it should be noted that they may not be in the immediate project impact area.

Reclamation will develop construction specifications to include noise, traffic, and human use restrictions to minimize disturbance to wildlife near the construction zone of Ridges Basin as described under Mitigation for Refined Alternative 4 Wildlife Impact 2 in Section 3.5. The Carbon Mountain gas pipeline route, which could significantly impact golden eagle nesting, will not be considered. Reclamation will make efforts to avoid construction during the May-July period in the vicinity of elk calving areas to minimize impacts to elk.

Reclamation will ensure that recreational facilities and the new alignment for County Road (CR) 211 are sited or restricted in such a way to minimize the disruption of deer and elk habitat utilization and behavior as described under Mitigation for Refined Alternative 4 Wildlife Impact 3 in Section 3.5. Habitat impacts discussed previously include indirect impacts. In addition, the operation of those facilities would be managed through a plan that would support the minimization or elimination of those conflicts/impacts. Recreation facilities will not be permitted on the west or south sides of the reservoir to reduce impacts to big game migration corridors. Sufficient land will be acquired at the time reservoir right-of-way is acquired at the upper (western) end of the reservoir and along the southern shore to provide a wildlife migration corridor.

Reclamation will collaborate with raptor specialists from the Service and CDOW on road realignment and construction activities at Ridges Basin Dam to identify and implement measures minimizing effects on existing golden eagles and their nests on Carbon Mountain as described under Mitigation for Refined Alternative 4 Wildlife Impact 4. All reasonable means to preclude human activity on Carbon Mountain will be pursued. All power lines will be designed raptor-proof.

Reclamation will require that a 0.25-mile buffer around the existing golden eagle nests be identified and that all reasonable measures are pursued to preclude human activity on Carbon Mountain during the nesting period of golden eagles (December 1 through July 15), as described under Mitigation for Refined Alternative 4 Wildlife Impact 5 in Section 3.5.

Reclamation will ensure that development of non-binding end uses and conveyance systems avoid or minimize construction impacts to wetland and riparian vegetation wildlife habitat located within the potential corridor alignments of the non-binding water conveyance pipelines and that construction zones are the minimal necessary to meet project objectives as described under Mitigation for Refined Alternative 4 Wildlife Impact 7 in Section 3.5. If avoidance is not possible, Reclamation will require that a riparian/wetland habitat mitigation and a monitoring plan is developed to compensate for the loss of habitat value.

#### **5.4.6 Aquatic Resources**

Reclamation will evaluate the feasibility of extending the inlet conduit for water to enter the reservoir below the thermocline in Ridges Basin Reservoir as described under Mitigation for Refined Alternative 4 Aquatics Resources Impact 2 in Section 3.6. Final determination of the inlet conduit design will be dependent upon findings of this evaluation.

Reclamation will develop and implement a monitoring program at Ridges Basin Reservoir to determine the extent of bioaccumulation of trace elements in fish and wildlife within the area. The monitoring program will be initiated within one year after the reservoir is filled and the coldwater fishery is established. The monitoring study will be conducted annually for a minimum of three years, as described under mitigation for Refined Alternative 4 Aquatic Resources Impact 3 in Section 3.6.

Reclamation will continue to monitor native fisheries in the Animas River and will evaluate several methods of compensation for impacts, including modifying pumping operation, providing fish passage around migration barriers on the Animas River, and providing and protecting ALP Project water in the La Plata River as described under Mitigation for Refined Alternative 4 Aquatic Resources Impact 4 in Section 4.6..

Reclamation will review and adopt established guidelines for screening diversion facilities to minimize fish entrainment and impingement at the Ridges Basin Pumping Plant. Reclamation will also ensure that design specifications include Best Available Technologies as described under Mitigation for Refined Alternative 4 Aquatic Resources Impact 5 in Section 3.6.

Reclamation will operate the pumping plant in a manner to minimize the downstream stranding of fish in the Animas River. Changes in pumping rate will not exceed 50 cubic feet per second (cfs)/hour upramp and 100 cfs/hour downramp as described under Mitigation for Refined Alternative 4 Aquatic Resources Impact 6 in Section 3.6.

Reclamation will either screen or implement other physical structures to prevent live fish from being released from Ridges Basin Reservoir. The reservoir outlet system will be designed and fitted with devices to eliminate survival of fish escaping the reservoir. Reclamation will monitor escapement from the reservoir and Basin Creek as described under mitigation for Refined Alternative 4 Aquatic Resources Impact 7 in Section 3.6.

Reclamation will fund the acquisition and stocking of wild strains of trout annually in the Animas River within the boundaries of the Southern Ute Indian Reservation to compensate for fish loss due to the reduction in usable trout habitat. Individual stocks of trout will be marked in such a manner that age groups could be monitored over time. This monitoring plan would be developed in consultation with the Service, CDOW, New Mexico Department of Game and Fish (NMDGF), and the Tribe. This relative success of this effort will be assessed after four years. If it is deemed a success; that is, if the trout biomass within the stocked reaches of the river are elevated to a point of supporting a recreational fishery, the stocking program will continue. For the acquisition of trout stock, Reclamation will consider the development of a new hatchery in cooperation with the Southern Ute Indian Tribe and others. This same hatchery could very well be utilized for providing for fish stocking for Ridges Basin Reservoir.

#### **5.4.7 Special Status Species**

Reclamation will implement conservation recommendations in the 1996 Biological Opinion, with modifications, including the incorporation of bypass flows to reduce the possibility of impacts to cottonwood recruitment as described under Mitigation for Refined Alternative 4 Special Status Species Impact 1 in Section 3.7.

Reclamation will, in conjunction with the Service, CDOW, NMDGF, and the Colorado Ute Tribes, implement a terrestrial and aquatic monitoring program to determine potential water contamination affects and ways to address potential contaminant issues as described under Mitigation for Refined Alternative 4 Special Status Species Impact 2 in Section 3.7.

Reclamation will ensure that contractors schedule construction of the NNMP to avoid construction during periods when the southwestern willow flycatcher is present near San Juan River crossing as described under Mitigation for Refined Alternative 4 Special Status Species Impact 3 in Section 3.7.

Reclamation will operate Navajo Reservoir and Ridges Basin Reservoir to mimic the natural hydrograph flows of the San Juan River for the benefit of the Colorado pikeminnow and razorback sucker as described under Mitigation for Refined Alternative 4 Special Status Species Impact 4 in Section 3.7.

Reclamation will design and operate the Ridges Basin Reservoir outlet system to eliminate the possibility of predatory or competitive fish escaping the reservoir and releasing into the Animas River as discussed under Mitigation for Refined Alternative 4 Special Status Species Impact 5 in Section 3.7.

#### **5.4.8 Geology and Soils**

Reclamation will reduce or eliminate the potential for earthquake damage to project facilities through specific design specifications. Specifications will require design performance to withstand a maximum credible earthquake for seismic sources in the vicinity of Ridges Basin Dam site as described under Mitigation for Refined Alternative 4 Geology Impact 1 in Section 3.8.

Reclamation will develop and implement a controlled water rate program for filling Ridges Basin Reservoir to reduce the potential for induced seismic impacts as described under Mitigation for Refined Alternative 4 Geology Impact 2 in Section 3.8.

Reclamation will develop and implement a facilities operation program that includes monitoring the reservoir shoreline and slopes for landslide and slumping. Reclamation will also provide for public notification and control public access in areas where high landslide and slumping potential exists as described under Mitigation for Refined Alternative 4 Geology Impact 3 in Section 3.8.

Reclamation will develop an engineered process plan to limit, control, and manage dam site methane gas releases during construction. Reclamation will also monitor the area for methane gas releases during construction and operation as described under Mitigation for Refined Alternative 4 Geology Impact 4 in Section 3.8.

Reclamation will investigate the potential of gas release due to man-made intrusions within Ridges Basin and the proposed dam site. Specifically, construction investigations will study the integrity of abandoned exploration wells and the Gates Coal Mine as described under Mitigation for Refined Alternative 4 Geology Impact 5 in Section 3.8.

Reclamation will mandate that construction contractors use and implement measures contained in erosion control guidelines and BMPs to control soil erosion from construction areas as described under Mitigation for Refined Alternative 4 Soils Impact in Section 3.8.

Reclamation will develop and implement a program to control reservoir filling and drawdown at rates sufficient to reduce significant erosion and sedimentation potential as described under Mitigation for Refined Alternative 4 Soils Impact 2 in Section 3.8.

#### **5.4.9 Cultural and Paleontologic Resources**

Reclamation will ensure compliance with historic/archaeological treatment measures and publish results pursuant to the Programmatic Agreement developed in conjunction with the ALP Project as described under Mitigation for Refined Alternative 4 Cultural Impacts 1-3 in Section 3.9. Attachment H contains a Draft Amended Programmatic Agreement for the ALP Project.

Reclamation will ensure compliance with mitigation measures developed in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA) and Executive Order 13007 as described

under Mitigation for Refined Alternative 4 Cultural Impact 4 in Section 3.9. Appendix H contains a draft NAGPRA Plan for the ALP Project.

Reclamation will ensure that areas to be disturbed are field surveyed prior to construction disturbance and will ensure that construction monitoring is conducted where deemed appropriate as described under Mitigation for Refined Alternative 4 Paleontologic Impact 1 in Section 3.9.

Reclamation will ensure that periodic shoreline monitoring is conducted as part of the facilities operations plan as described under Mitigation for Refined Alternative 4 Paleontologic Impact 2 in Section 3.9.

#### **5.4.10 Agriculture**

No environmental commitments are made for agricultural resources.

#### **5.4.11 Recreation**

Reclamation will pursue pumping regimes that reduce adverse flow effects on boating opportunities within the Animas River when possible and will take steps to improve public access to the river as described under Mitigation for Refined Alternative 4 Recreation Impacts 1 and 2 in Section 3.11.

Reclamation will alter pumping regimes during periods of competitive events as described under Mitigation for Refined Alternative 4 Impact 3 in Section 3.11.

Reclamation will acquire or provide funding (not to exceed \$500,000) for the acquisition of public access at a minimum of two points on the Animas River between the High Bridge and Basin Creek to reduce effects to anglers on the Animas River as described under Mitigation for Refined Alternative 4 Recreation Impact 4 in Section 3.11.

#### **5.4.12 Socioeconomics**

No environmental commitments are made for socioeconomic resources.

#### **5.4.13 Land Use**

No environmental commitments are made for land use impacts.

#### **5.4.14 Hazardous Materials**

Reclamation will ensure that the Durango Pumping Plant is designed to minimize the disturbance of contaminated materials. Reclamation will also ensure that procedures are developed for radiological monitoring of excavated soils and groundwater encountered and that remedial procedures are planned in advance to counteract the potential for human exposure and prevention of contaminated groundwater release from the construction site as described under Mitigation for Refined Alternative 4 Hazardous Materials Impact 1 in Section 3.14.

Reclamation will ensure that all federal and state requirements pertaining to the management and handling of hazardous materials and radioactive waste are followed and will include those requirements

within construction contract language inclusive of construction safety and environmental compliance as described under mitigation for Refined Alternative 4 Hazardous Materials Impact 2 in Section 3.14.

Reclamation will require that preconstruction surveys are conducted for non-binding water end use facilities and conveyance system development and that hazardous material standards relating to construction are adhered to as described under Mitigation for Refined Alternative 4 Hazardous Materials Impact 5 in Section 3.14.

#### **5.4.15      Transportation**

Reclamation will conduct a transportation survey prior to construction of Ridges Basin Dam and Reservoir and will implement methods to reduce traffic-related impacts as described under Mitigation for Refined Alternative 4 Transportation Impacts 1 and 2 in Section 3.15.

Reclamation will ensure through construction design to maintain CR 211 roadway, shoulder, drainage, and roadside to standards adequate to avoid noticeable degradation as described under Mitigation for Refined Alternative 4 Transportation Impact 3 in Section 3.15.

Reclamation will require third-party developers of recreation facilities at Ridges Basin Reservoir to conduct traffic engineering impacts analysis studies and to mitigate recreation facility impacts according to state and county standards. Associated costs would be the responsibility of the developing entity as described under Mitigation for Refined Alternative 4 Transportation Impact 7 in Section 3.15.

#### **5.4.16      Air Quality**

Reclamation will require that construction contractors implement measures to control fugitive dust and exhaust emissions during construction as described under Mitigation for Refined Alternative 4 Air Quality Impact 1 in Section 3.16.

Reclamation, or other responsible federal agency, will require third-party developers to implement measures to control fugitive dust and other emissions during construction and operation of non-binding end uses.

#### **5.4.17      Noise**

Reclamation will require that the Durango Pumping Plant construction contractor restrict operation of heavy equipment during the nighttime hours as described under Mitigation for Refined Alternative 4 Noise Impact 1 in Section 3.17.

Reclamation will ensure that construction contractors provide blasting notification to residents, sound pre-blast alarms, and follow the construction safety plan as described under Mitigation for Refined Alternative 4 Noise Impact 2.

Reclamation will design the Durango Pumping Plant with sound insulation and vegetative screening as described under Mitigation for Refined Alternative 4 Noise Impact 3 in Section 3.17.

Reclamation will ensure that construction contractors schedule construction activities to avoid or minimize loud activities in the vicinity of golden eagle nesting areas during the nesting season and that

nesting areas are off limits to construction forces and visitors as described under Mitigation for Refined Alternative 4 Noise Impact 4 in Section 3.17.

Reclamation will require that third-party developers of recreation facilities at Ridges Basin Reservoir incorporate in a recreation development/management plan the requirement to prohibit particularly loud forms of watercraft and include signing to advise people of eagle nesting sensitivity to human presence and noise as described under Mitigation for Refined Alternative 4 Noise Impact 5 in Section 3.17.

Reclamation will ensure that developers and contractors associated with construction and operation of the non-binding end uses incorporate methods to minimize noise disturbances as described under Mitigation for Refined Alternative 4 Noise Impact 6 in Section 3.17.

#### **5.4.18 Public Health and Safety**

Reclamation will ensure that public access to structural component construction areas will be controlled by signage and by fencing around construction areas as described under Mitigation for Refined Alternative 4 Public Health and Safety Impact 1 in Section 3.18.

Reclamation will ensure that contractors configure haul routes and access roads to prevent or discourage public vehicular entry, including placement of signs warning against entry as described under Mitigation for Refined Alternative 4 Public Health and Safety Impact 2 in Section 3.18.

Reclamation will ensure that all the potentially affected gas companies will be contacted prior to construction crossings of gas pipelines which will be precisely located and appropriately marked in the field and on the specifications as described under Mitigation for Refined Alternative 4 Public Health and Safety Impact 3 in Section 3.18.

Reclamation will ensure that public access to end use and delivery system construction areas is controlled by signage and by fencing around construction areas as described under Mitigation for Refined Alternative 4 Public Health and Safety Impact 4 in Section 3.18.

Reclamation will ensure that recreation area planning, final design of facilities, and reservoir access points are developed to promote safety and accident management techniques as described under Mitigation for Refined Alternative 4 Public Health and Safety Impact 7 in Section 3.18.

#### **5.4.19 Public Services and Utilities**

Reclamation will ensure that construction contractors adequately secure and patrol their work sites as described under Mitigation for Refined Alternative 4 Public Services and Utilities Impact 1 in Section 3.19.

Reclamation will ensure that contractors will mark the locations of existing buried utilities and develop a notification system for coordination with affected utilities during construction as described under Mitigation for Refined Alternative 4 Public Services Utilities Impact 4 in Section 3.19.



#### **5.4.20 Visual Resources**

Reclamation will ensure that as part of construction design, the Durango Pumping Plant blends into the natural landform and that, following construction, the site is adequately revegetated as described under Mitigation for Refined Alternative 4 Visual Impact 1 in Section 3.20.

Reclamation will ensure that the design of structural facilities incorporates, to the extent practicable, non-intrusive design elements and that restoration of disturbed areas be conducted as described under Mitigation for Refined Alternative 4 Visual Impact 2 in Section 3.20.

#### **5.4.21 Indian Trust Assets and Environmental Justice**

Interior will support the modification of the Settlement Agreement, through legislated amendments to the Settlement Act, to recognize the new limits placed on the use and amount of water provided to the Colorado Ute Tribes and establishment of the water acquisition fund.

Interior will pursue the development of operation plans for Ridges Basin and Navajo Reservoirs that would optimize more efficient delivery of the flow recommendations for endangered fish in the San Juan River and limit certain project pumping to allow for making additional depletions and developable water available for other Indian tribes present and future water needs.

Interior will facilitate discussions between the Jicarilla Apache Tribe and other parties with interest in the San Juan River Basin to develop options of obtaining 25,500 afy depletion as authorized under the Jicarilla Apache Tribe Water Rights Settlement Act.